Agenda item : F-2.3.

34 th Argos Operations Committee meeting
Prepared by CLS
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SYSTEM IMPROVEMENTS

1. HARDWARE CONFIGURATION

Two new HRPT stations joined our network of ground receiving stations in 1999, in Murmansk and Petropavlosk, Russia. They are helping to improve Argos data throughput times.
The station in Hawaii, operated by the University of Hawaii, was replaced by the National Weather Service's receiving station.
The Monterey station, previously operated by the US Navy, was also replaced by the National Weather Service station.
Other projects are underway and we hope they will come to fruition this year. For example, we are discussing data reception agreements with Miami, Cayenne, and Singapore.

2. SOFTWARE CONFIGURATION

A great deal of work was done in 1999 to ready our software for the Y2K transition. This task involved checking over two million lines of code.
Two new services were added to enhance ADS data distribution:

- automatic transmission of data from a platform as soon as it enters a specified zone, and
- secure data transmission via a PGP protocol.

Alongside these software activities, work continued on two major projects to improve Argos system performance: Argos 2001 and Argos/Next.

3. ARGOS 2001

The purpose of the Argos 2001 project is to upgrade the entire Argos processing system. This ambitious project is vital for the long-term continuity of the Argos system and to better serve users.
This project is scheduled in three phases:

Phase I: development and implementation of a new user interface allowing users to access data and view and update technical files via a Web server. The System Use Agreements database will also be implemented during this phase. Data will be stored and managed by a database management system designed to be responsive to users' needs. Our objective is to give users more versatility if they require. Consequently, we will be expected to offer them quick and efficient support.

Phase II: Improvement and development of value-added services.
Phase III: Redesign of the Argos processing system.

Current status:
Phase I began end 1998 and is being pursued.
The user management application is operational.
Development of the User Office application has been completed and rollout is scheduled for September.
The Web user interface is in development and rollout is scheduled for the end of this year.

4. ARGOS/NEXT

The downlink messaging capabilities provided by the ADEOS II/Argos DCS equipment will require the addition of two new components to the current Argos ground segment:

A Downlink Message Management Center (DMMC)
located at CLS premises in Toulouse, France.

The DMMC's role is to centralize, validate, and schedule downlink message requests from users before transmitting downlink messages to the satellite (via a Master Beacon).

The Argos Web server developed within the scope of the Argos 2001 project will allow users to:

- enter requests and compile downlink messages for platforms carrying an Argos Next/Argos 3 receiver;
- monitor request status until completion.Note: a backup DMMC will be installed at SAI Largo (USA).

DMMC development will be completed by the end of the second quarter of 2000.

A network of four master beacons,
located at strategic points around the globe, acting as the link between satellites and the DMMC.
The four locations foreseen for these beacons are:
Toulouse, Hatoyama, Fairbanks, and Spitsberg (TBC).

Development of the prototype is complete. The first two master beacons will be installed in Toulouse and Hatoyama (Japan) before the end of 2000.

This project is also managing the current Argos software upgrade to support:

- file exchanges with the ADEOS II ground segment;
- ADEOS II spacecraft maneuvers;
- ADEOS II/Argos DCS Level-0 data and HK telemetry processing;
- processing of Argos messages related to the downlink messaging service;
- 28-bit ID numbers.

All these modifications have now been completed.The launch of ADEOS-II, previously scheduled for November 2000, has now been pushed back to November 2001.

5. REGIONAL PROCESSING CENTERS

The network of regional processing centers underwent no major changes in 1999, due to the Y2K transition. Once again, a lot of effort was expended on checking and validating software.However, certain improvements were made. These chiefly concerned data transmission between global and regional centers, and telemonitoring and telemaintenance.The three regional centers in Melbourne, Tokyo, and Lima operated without a major hitch in 1999.